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REMARKS

Claims 18-23, 25-35, 37, and 38 are all the claims pending in the application. Claims 18-22, 25-29, and 34 are allowed. Claim 23, 35, 37, and 38 stand rejected only upon informalities; and claims 30-33 and 35 stand rejected only on prior art grounds. Applicants respectfully traverse these rejections based on the following discussion.

I. The 35 U.S.C. §112, Second Paragraph, Rejection

Claim 23, 35, 37, and 38 stand rejected only under 35 U.S.C. §112, second paragraph based upon antecedent basis issues. The dependency of claims 23, 35, and 37 has been changed to provide proper antecedent basis. Claim 38 has been amended to clarify that the "spacer" is both the upper and lower spacer. It is Applicants' understanding that the foregoing claim changes should overcome this rejection. In addition, claims 23, 35, 37, and 38 are otherwise allowable. Thus, the Examiner is respectfully requested to withdraw this rejection and allow claims 23, 35, 37, and 38.

II. The Prior Art Rejections

Claims 30 and 31 stand rejected under 35 U.S.C. §102(b) as being anticipated by Taur et al., hereinafter "Taur" (US 5,646,058). Claims 32, 33, and 35 stand rejected under 35 U.S.C. §102(b) as being anticipated by, or, in the alternative, under 35 U.S.C. §103(a) as being unpatentable over Taur. Applicants respectfully traverse these rejections based on the following discussion.

A. The Rejections Based on Taur

The Office Action states that "the thickness of the gate insulating layer (26/20) is independent of the thickness of the spacer (20a/20b/20c)" - (Office Action- page 4, 2nd line). However, Taur (US 5,646,058) uses only the gate oxide 26 (Fig 2 in Taur) for isolating the gate conductor from the source and drain. That is, layer 26 isolates the

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channel 22a/22b from the gate 30 and it is the same layer 26 that isolate the drain 28 and Si source from the gate 30 (Fig. 2). It is only the top surface of the Si source and the drain 28 that are isolated from the gate by an additional layer 20a and 20b. The Si source sidewalls and drain 28 sidewalls are spaced from the gate by the same layer 26 that spaces the channel 22a/22b from the gate 30. Thus, the gate oxide 26 thickness is tied to the thickness of the isolation layer (also 26) between the gate conductor and the Si source and drain 28.

The claimed invention, on the other hand, includes a "sidewall spacer" 21 to isolate the gate conductor from the source and drain sidewalls (Fig. 1D). The sidewall spacer film is independent of the gate oxide film as these layer are formed at different processing steps. Moreover the gate dielectric and the sidewall spacer 21 can be of different materials. This is not the case in Taur where the same layer 26 is used to form a gate dielectric and to isolate the gate from the source and drain.

Applicants respectfully submit that independent claim 30 is patentable over Taur because Taur does not teach or suggest a structure that includes a "sidewall spacer" (e.g., item 21 in Applicants' Figure 1D) between the gate conductor and the source and drain regions. Therefore, as explained in detail below, Applicants submit that independent claim 30 and its associated dependent claims are patentable over the prior art of record.

More specifically, Taur does not teach a sidewall spacer between the gate conductor and the source and drain regions. In fact Taur uses the gate oxide 26 (Fig 2 in Taur) for isolating the gate conductor from the source and drain. Thus, the gate oxide 26 thickness is linked to the thickness of the isolation layer (also 26) between the gate conductor and the source and drain. The claimed invention, on the other hand, forms a sidewall spacer 21 to isolate the gate conductor sidewall from the source and drain (Fig. 1D). The sidewall spacer thickness is independent of the gate oxide which is grown at a different step than that of the spacer.

Therefore, it is Applicants' position that the prior art of record does not teach or suggest a structure that includes sidewall spacers between the gate conductor and the source and drain regions, as defined by independent claim 30. More specifically, independent claim 30 defines "a sidewall spacer between said double-gate conductor and said drain and source regions." Thus, Applicants respectfully submit that independent

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claim 30 is patentable over the prior art of record. Further, dependent claims 31-33 are similarly patentable, not only by virtue of their dependency from a patentable independent claim, but also by virtue of the additional features of the invention they define. In view the forgoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

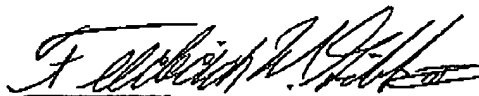
III. Formal Matters and Conclusion

In view of the foregoing, Applicants submit that claims 18-23, 25-35, 37, and 38 all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 50-0510.

Respectfully submitted,



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